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Attorney Docket No. P20422

Mail Stop Amendment

In re application of : T.KLOS et al.

Application No : 09/853,722 Group Art Unit: 2665

Filed : May 14, 2001 Examiner : Toan Nguyen

For : METHOD AND SYSTEM FOR PROVISIONING DIGITAL SUBSCRIBER LINE FACILITIES

Mail Stop Amendment
Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop _____
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

Transmitted herewith is an **Appeal Brief Under 37 C.F.R.** § 41.37 in the above-captioned application.
___ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a previously filed statement.
___ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.
___ An Information Disclosure Statement, PTO Form 1449, and references cited.
_X_ A Appeal Brief Under 37 C.F.R. § 41.37.

The fee has been calculated as shown below:

Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 38	*38	0	X25=	$	x 50=	$0.00
Indep. Claims: 6	**6	0	X100=	$	X200=	$0.00
Multiple Dependent Claims Presented			+180=	$	+360=	$0.00
Appeal brief fee				$		$500.00
			Total:	$	Total:	$500.00

___ Please charge my Deposit Account No. 19-0089 in the amount of $_____.
_X_ A Check in the amount of $ 500.00 to cover the filing/extension fee(s) is included.
_X_ The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.
_X_ Any additional filing fees required under 37 C.F.R. 1.16.
_X_ Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of time fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 CFR 1.136)(a)(3).

Bruce H. Bernstein
Reg. No. 29,027

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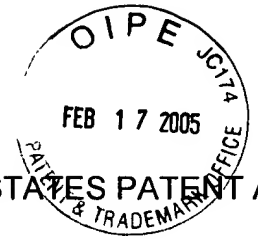

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : T. KLOS et al.

Group Art Unit: 2665

Appl No : 09/853,722

Examiner: Toan Nguyen

Filed : May 14, 2001

For : METHOD AND SYSTEM FOR PROVISIONING DIGITAL SUBSCRIBER LINE FACILITIES

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This appeal is from the Examiner's rejection of claims 1-38, as set forth in the Official Action of July 20, 2004.

A Notice of Appeal was filed on December 17, 2004, along with a request for a two month extension of time, in response to the Official Action dated July 20, 2004.

The requisite fee for filing a Notice of Appeal under 37 C.F.R. 41.20(b) was paid on December 17, 2004. However, if for any reason the necessary fee is not associated with this file or the attached fee is inadequate, the Commissioner is authorized to charge the fee for the Appeal Brief and any necessary extension of time fees to Deposit Account No. 19-0089.

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(1) REAL PARTY IN INTEREST

The real party in interest is SBC Services, Inc., as established by an assignment recorded in the U.S. Patent and Trademark Office on August 22, 2001, at Reel 012095 and Frame 0049.

(2) RELATED APPEALS AND INTERFERENCES

No related appeals and/or interferences are pending.

(3) STATUS OF THE CLAIMS

Claims 1-38 stand rejected and are the subject of this appeal. A copy of claims 1-38 is attached as an Appendix to this brief.

(4) STATUS OF THE AMENDMENTS

No amendments to the claims were filed under 37 C.F.R. § 1.116 after the Examiner's final rejection of the claims of July 20, 2004.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Initially, Appellants note that the following descriptions are made with respect to the independent claims and include references to particular parts of the figures and specification. As such, the following are merely exemplary and are not a surrender of other aspects of the present invention that are also enabled by the present specification and that are directed to equivalent structures or methods.

Independent claim 1 recites: A method for provisioning a digital subscriber line (DSL) service for a subscriber (e.g., Fig. 1, subscriber 100) in a telecommunications network (e.g., Fig. 1, network 150), the method comprising: receiving a service order at a provisioning server (e.g., Fig. 2, step 210), the service order requesting implementation of the DSL service and comprising provisioning data (e.g., Specification paras. [0043], [0044]); assigning a plurality of facilities (e.g., Fig. 1, RT 102, RT controller 110, OCD 104, EMS 116; Specification, paras. [0032], [0034]) to implement the service order based on the provisioning data (e.g., Fig. 2, step 226), the plurality of facilities comprising at least a remote terminal (e.g., Fig. 1, RT 102) connectable to a terminal of the DSL subscriber (e.g., Fig. 1, subscriber 100); determining an interface corresponding to each of the plurality of assigned facilities, each interface converting at least a portion of the provisioning data into a specific protocol corresponding to the assigned facility (e.g., Fig. 4, steps 412 – 414; Specification paras. [0060] – [0062]); and configuring each of the plurality of facilities, using the corresponding interface, to implement the service order based on the provisioning data (e.g., Figs. 5 and 6).

Independent claim 8 recites: A method for provisioning a digital subscriber line (DSL) service in a telecommunications network (Fig. 1, network 150) for a subscriber (e.g., Fig. 1, subscriber 100), the method comprising: receiving a service order at a common server (e.g., Fig. 2, step 210; Specification paras. [0043], [0044]), requesting set up of the DSL service; converting the service order into provisionable steps (e.g., Fig. 2, step 222); determining facility assignment data related to each of a plurality of facilities (e.g., Fig. 1, RT 102, RT controller 110, OCD 104, EMS 116; Specification, paras. [0032], [0034]) needed to implement the provisionable steps (e.g., Fig. 2, step 226), the facility assignment data

comprising identification of at least a remote terminal (e.g., Fig. 1, RT 102) and a subscriber port (e.g., Fig. 1, subscriber port 101), connectable to a terminal of the DSL subscriber (e.g., Fig. 1, subscriber 100), and an optical concentrator device (e.g., Fig. 1, OCD 104) connectable to the remote terminal (e.g., Fig. 1, RT 102); determining an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities (e.g., Fig. 4, steps 412 – 414; Specification paras. [0060] – [0062]); and configuring each of the plurality of facilities to implement the service order based on instructions communicated from the common server to each of the plurality of facilities using the corresponding interface (e.g., Figs. 5 and 6).

Independent claim 18 recites: A system for provisioning a digital subscriber line (DSL) service in a telecommunications network (Fig. 1, network 150), the system comprising: a server (e.g., Fig. 1, provisioning server 128) that receives a service order for implementing the DSL service (e.g., Specification paras. [0043], [0044]); a plurality of network facilities (e.g., Fig. 1, RT 102, RT controller 110, OCD 104, EMS 116; Specification, paras. [0032], [0034]) connectable to the server (e.g., Fig. 1, provisioning server 128); and a system database (e.g., Fig. 1, system database 130) that stores the service order and a plurality of interface identifiers for interfaces corresponding to the plurality of network facilities (e.g., Specification paras. [0060] – [0062]); wherein the server (e.g., Fig. 1, provisioning server 128) assigns provisioning facilities from among the plurality of network facilities needed to implement the service order (e.g., Fig. 2, step 226), the provisioning facilities comprising at least one remote terminal (e.g., Fig. 1, RT 102), connectable to a terminal of a subscriber (e.g., Fig. 1, subscriber 100) of the DSL service; and wherein the server (e.g., Fig. 1, provisioning server 128) directs configuration of each of the provisioning

facilities, using at least one of the interface identifiers retrieved from the system database (e.g., Fig. 1, system database 130) corresponding to each of the provisioning facilities, enabling communication with the provisioning facilities, to implement the DSL service based on the service order (e.g., Figs. 5 and 6).

Independent claim 24 recites: A system for provisioning a digital subscriber line (DSL) service in a telecommunications network (Fig. 1, network 150), the system comprising: a service order entry system (e.g., Fig. 1, service order entry system 112) that receives a service order for the DSL service from a DSL service provider (Specification paras. [0043], [0044]); a server (e.g., provisioning server 128) that receives the service order from the service order entry system (e.g., Fig. 1, service order entry system 112); a plurality of network facilities (e.g., Fig. 1, RT 102, RT controller 110, OCD 104, EMS 116; Specification, paras. [0032], [0034]) connectable to the server (e.g., provisioning server 128) and a terminal of a subscriber (e.g., Fig. 1, subscriber 100) of the DSL service; a facility inventory system (e.g., Fig. 1, facility inventory system 114) connected to the server (e.g., provisioning server 128) that stores facility information regarding each of the plurality of network facilities, the facility information comprising a type, a location and an availability of each of the plurality of network facilities; and a system database (e.g., Fig. 1, system database 130) connected to the server (e.g., provisioning server 128) that stores data relating to the service order and a plurality of interfaces corresponding to the plurality of network facilities, the plurality of interfaces enabling communication with the plurality of network facilities (e.g., Specification paras. [0060] – [0062]); wherein the server (e.g., provisioning server 128) communicates with the facility inventory system (e.g., Fig. 1, facility inventory system 114) to determine provisioning facilities from among the plurality of

network facilities needed to implement the DSL service based on the service order (e.g., Fig. 2, step 226), the provisioning facilities comprising at least one remote terminal (e.g., Fig. 1, RT 102) having a subscriber port (e.g., Fig. 1, subscriber port 101) and at least one optical concentrator device (Fig. 1, OCD 104), the remote terminal (e.g., Fig. 1, RT 102) being connectable to the optical concentrator device (Fig. 1, OCD 104) via an optical fiber line (e.g., Fig. 1, OC3); and wherein the server (e.g., provisioning server 128) directs configuration of each of the provisioning facilities using a corresponding one of the plurality of interfaces retrieved from the system database (e.g., Fig. 1, system database 130) to implement the DSL service (e.g., Figs. 5 and 6).

Independent claim 31 recites: A computer readable medium for storing a computer program executed by a provisioning server (e.g., provisioning server 128) that provisions a digital subscriber line (DSL) service in a telecommunications network (Fig. 1, network 150), the computer readable medium comprising: a receiving source code segment that receives a service order requesting implementation of the DSL service (e.g., Fig. 2, step 210; Specification paras. [0043], [0044]); an assigning source code segment that assigns a plurality of facilities (e.g., Fig. 1, RT 102, RT controller 110, OCD 104, EMS 116; Specification, paras. [0032], [0034]) needed to implement the service order based on provisioning data indicated by the service order (e.g., Fig. 2, step 226), the plurality of facilities comprising at least a remote terminal (e.g., Fig. 1, RT 102) connectable to a terminal of a DSL subscriber (e.g., Fig. 1, subscriber 100) and an optical concentrator device (e.g., Fig. 1, OCD 104) connectable to the remote terminal (e.g., Fig. 1, RT 102); a determining source code segment that determines an interface corresponding to each of the plurality of facilities, each interface converting the service order data into a specific protocol

corresponding to the assigned facility (e.g., Fig. 4, steps 412 – 414; Specification paras. [0060] – [0062]); and a configuring source code segment that configures each of the plurality of facilities, using the corresponding interface, to implement the DSL service based on the service order (e.g., Figs. 5 and 6).

Independent claim 38 recites: A computer readable medium for storing a computer program that provisions a digital subscriber line (DSL) service in a telecommunications network (Fig. 1, network 150), the computer readable medium comprising: a receiving source code segment that receives a service order at a common server via a service order entry system (e.g., Fig. 1, service order entry system 112; Fig. 2, step 210), the service order requesting that the DSL service be set up for a DSL subscriber (e.g., Specification paras. [0043], [0044]); a converting source code segment that converts the service order into provisionable steps (e.g., Fig. 2, step 222); a facility assignment source code segment that determines facility assignment data related to each of a plurality of facilities (e.g., Fig. 1, RT 102, RT controller 110, OCD 104, EMS 116; Specification, paras. [0032], [0034]) needed to implement the provisionable steps (e.g., Fig. 2, step 226), the facility assignment data comprising identification of at least a remote terminal (e.g., Fig. 1, RT 102) and a subscriber port (e.g., Fig. 1, subscriber port 101), connectable to a terminal of the DSL subscriber (e.g., Fig. 1, subscriber 100), and an optical concentrator device (e.g., Fig. 1, OCD 104) connectable to the remote terminal (e.g., Fig. 1, RT 102); an interface determining source code segment that determines an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities (e.g., Fig. 4, steps 412 – 414; Specification paras. [0060] – [0062]); and a configuring source code segment that configures each of the plurality of facilities to

implement the service order based on instructions communicated from the common server to each of the plurality of facilities using the corresponding interface (e.g., Figs. 5 and 6).

(6) **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

(A) Whether Claims 1-7, 18-19 and 22-23 are properly rejected under 35 U.S.C. 103(a) as unpatentable over SUNDARESAN et al. (U.S. Patent No. 6,463,079) in view of RAWSON et al. (U.S. Patent No. 6,028,867).

(B) Whether Claims 8-17, 20-21 and 24-38 are properly rejected under 35 U.S.C. 103(a) as unpatentable over SUNDARESAN et al. (U.S. Patent No. 6,463,079) in view of RAWSON et al. (U.S. Patent No. 6,028,867) in further view of BYERS (U.S. Patent No. 5,926,472).

(7) **ARGUMENT**

(A) Claims 1-7, 18-19 and 22-23 are not obvious over SUNDARESAN et al. in view of RAWSON et al., and the decision to reject Claims 1-7, 18-19 and 22-23 under 35 U.S.C. 103(a) should be reversed.

In the Official Action of July 20, 2004, the Examiner rejected claims 1-7, 18-19 and 22-23 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,463,079 to SUNDARESAN et al. in view of U.S. Patent No. 6,028,867 RAWSON et al. Appellants respectfully submit that the rejection of each of claims 1-7, 18-19 and 22-23 is improper and should be reversed. In this regard, Appellants hereinbelow address the rejection of the independent claims under 35 U.S.C. 103(a) as unpatentable over SUNDARESAN et al. in view of RAWSON et al. in the numerical order of the claims.

The References Relied Upon by the Examiner Are Non-Analogous

The references relied upon by the Examiner are non-analogous. Two criteria have evolved for determining whether prior art is analogous: (i) whether the art is from the same field of endeavor, regardless of the problem addressed, and (ii) when a reference is not within the field of endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979).

Generally speaking, the present invention is related to efficiently provisioning service orders for high bandwidth connections. More specifically, the present invention relates to a method for provisioning a DSL service for a subscriber in a telecommunications network; a system for provisioning a DSL service in a telecommunications network and a computer readable medium for storing a computer program that provisions a DSL service in a telecommunications network.

The RAWSON et al. patent is related to providing high speed remote access connections to subscribers for communications across a telecommunications network. The routing/network connection disclosure of RAWSON et al. is not from the same field of endeavor as the presently claimed invention. RAWSON et al. relate to establishing connections across a telecommunications network to enable communications (*i.e.*, routing calls from a subscriber terminal), not provisioning service orders (*e.g.*, initially setting up a DSL service for a subscriber). This reference does not involve configuring the facilities needed to provide the desired service, or changes to the desired service, to the subscriber.

It assumes that the desired service has already been established, and is now routing calls and making connections through the network using that service.

Moreover, the applied reference is not pertinent to the problem with which the inventors are involved. The inventors solved the problem of not being able to efficiently provision DSL service orders in the many various types and associated protocols of network facilities that must be configured in order to implement the service orders. The different facilities would have to be separately configured. In contrast, RAWSON et al., which is directed to solving the problem of connecting a user to different destinations across the network, does not even address network configuration problems.

There Is No Motivation to Combine SUNDARESAN et al. with RAWSON et al.

Even if the references were considered analogous (which they are not), there is no suggestion, motivation, incentive or reason to combine them in the manner proposed by the Examiner. "[T]he record must provide a teaching, suggestion, or reason to substitute computer-controlled valves for the system of hoses in the prior art. The absence of such a suggestion to combine is dispositive in an obviousness determination." *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 886-87, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988).

According to the Examiner, one having ordinary skill in the art would have been motivated to modify SUNDARESAN et al. by RAWSON et al. to gain "high speed access to any location connected to a central office in a cost effective manner," citing col. 4, lines 37-39 of RAWSON et al. for support. The exact passage in RAWSON et al. is from the summary of the invention and reads, "The present invention enables high speed remote

access to be provided to any location connected to a central office in a cost effective manner." This passage is simply a statement that the entirety of the invention of RAWSON et al. may enable high speed remote access in a cost effective manner; it is not remotely a teaching, motivation or suggestion that the limited teachings that the Examiner has extracted from RAWSON et al. would provide high speed remote access when applied in a totally different system, whether that claimed by the appellant or that disclosed by SUNDARESAN et al. There is simply nothing in this broad language of RAWSON et al. that would have motivated the sort of modification of SUNDARESAN et al. necessary to yield the appellant's claimed invention.

The SUNDARESAN et al. and RAWSON et al. references address completely different aspects of broadband telecommunications services: SUNDARESAN et al. address establishing services, e.g., by pre-qualifying service requests and reserving resources, while RAWSON et al. address establishing connections across a network pursuant to an already established service, and connecting to different types of destination end systems or "remote targets." In RAWSON et al., it is clear that the services that enable the users (110) to make connections across the telecommunications network (170) have already been set up, or configured. The data being sent across the network therefore is not provisioning data used to establish the service, but is the data the users (110) wish to convey to the remote targets (160) (*e.g.,* a company 160-A or an internet service provider 160-B). Accordingly, there is no motivation in SUNDARESAN et al. to incorporate the interface of RAWSON et al., which connects the telecommunications network and the remote target to communication pursuant to a previously provisioned service, into a broadband service provisioning system.

The Combination of SUNDARESAN et al. in view of RAWSON et al.

Does Not Teach or Suggest All of the Limitations of the Rejected Claims

(1) Claim 1

Claim 1 is directed to a method for *provisioning* a digital subscriber line (DSL) service for a subscriber in a telecommunications network and recites, in part, "receiving a service order at a provisioning server, the service order requesting implementation of the DSL service and comprising *provisioning data*" and "assigning a plurality of facilities *to implement the service order* based on the provisioning data, the plurality of facilities comprising at least a remote terminal connectable to a terminal of the DSL subscriber (emphasis added)." Claim 1 further recites "determining an interface corresponding to each of the plurality of assigned facilities, each interface converting at least a portion of the provisioning data into a specific protocol corresponding to the assigned facility; and *configuring each of the plurality of facilities*, using the corresponding interface, to implement the service order based on the provisioning data."

Appellants respectfully submit that the combination of SUNDARESAN et al. and RAWSON et al. does not teach or suggest at least determining an interface or configuring facilities using the interface in order to implement a DSL service, as required for the rejection of claim 1 under 35 U.S.C. 103(a) to be proper. In this regard, the Examiner has conceded that SUNDARESAN et al. do not teach determining an interface corresponding to each of the plurality of assigned facilities, each interface converting at least a portion of provisioning data into a specific protocol corresponding to the assigned facility. The Examiner therefore relied on RAWSON et al., in combination with SUNDARESAN et al., to teach these claim elements. However, the RAWSON et al. patent discloses *routing* DSL calls according to DSL services that have already been provisioned,

and does not disclose implementing a DSL service order based on provisioning data. The RAWSON et al. patent is therefore irrelevant to what is required by claim 1.

Claim 1 is directed to *provisioning* a DSL service for a subscriber pursuant to a service order, *not routing* DSL calls from the subscriber's terminal. The claim recites assigning facilities to implement a DSL service order received at a provisioning server, determining an interface corresponding to each of the assigned facilities, and converting at least a portion of provisioning data into a protocol corresponding to each assigned facility. For example, the assigned facilities may include a remote terminal and a OCD, which enable the subscriber to access the DSL network.

In the claimed embodiment, facilities (e.g., a remote terminal and/or OCD) must be assigned and provisioned, pursuant to provisioning data from a service order, for the subscriber to begin using the DSL service, and for the DSL service to be modified or discontinued. The provisioning may include, for example, specifying a subscriber port in the remote terminal and building a corresponding logical cross-connection in the connected OCD. *See, e.g.,* Specification, p.4, para. [0006]. The provisioning server of the claimed embodiment communicates the provisioning data to the assigned facilities through interfaces corresponding to these facilities. Each interface converts at least a portion of the provisioning data into a protocol corresponding to the assigned facility.

In contrast, RAWSON et al. disclose a system for enabling DSL connections from user locations 110-A to 110-E, through a telecommunications network 170, to destinations 160-A and 160-B. *See* Fig. 1; col. 6, lines 541-60. The destinations may require data sent from the user locations to be converted into different protocols. For example, destination 160-A may be a company that requires ATM data and destination 160-B may be an internet

service provider (ISP) that requires frame relay data. *See, e.g.,* col. 7, lines 3-11; col. 11, lines 17-22. In this environment, the "interfaces" disclosed by RAWSON et al. (as asserted by the Examiner) are DSL multiplexers 130-A and 130-B, located in the central office 120, and the "assigned facilities" are actually the destinations 160-A and 160-B. Also, "converting at least a portion of the *provisioning data* into a specific protocol corresponding to the assigned facility" is actually converting DSL communication data to ATM, frame relay, or some other format compatible with the call destination, as opposed to converting provisioning data from a service order to protocols corresponding to, e.g., a remote terminal or an OCD, used to implement the DSL service order. Accordingly, RAWSON et al. do not teach or suggest determining an interface corresponding to each facility assigned to provision a DSL service and using the interface to convert provisioning data into a specific protocol corresponding to each assigned facility.

In summary, RAWSON et al. discloses a method for routing calls in accordance with a previously provisioned DSL service. Therefore, any "interface" disclosed by RAWSON et al. necessarily interfaces between networks, or between a network and an end user, not between a provisioning server and a subscriber. Accordingly, at least for each and all of the reasons set forth above, Appellants submit that the rejection of the invention recited in claim 1 should be reversed.

(2) Claim 18

Claim 18 is a system claim, and recites similar features to those recited in claim 1, noted above. Claim 18 recites a system database (e.g., Fig. 1, system database 130) that stores the service order and a plurality of interface identifiers for interfaces corresponding to the plurality of network facilities (e.g., RT 102, RT Controller 110, OCD 104, EMS 116). Claim 18 further recites a server (e.g., Provisioning Server/Interface 128) that assigns provisioning facilities from among the plurality of network facilities needed to implement the service order, and that directs configuration of the provisioning facilities using the corresponding interface identifiers from the system database, enabling communication with the provisioning facilities, to implement the DSL service based on the service order.

Appellants respectfully submit that the above-noted features of claim 18 are not disclosed or suggested by the combination of SUNDARESAN et al. and RAWSON et al., at least for reasons similar to the above-noted reasons for the allowability of Claim 1. More particularly with respect to claim 18, the Examiner concedes that SUNDARESAN et al. do not disclose a plurality of interface identifiers for interfaces corresponding to the plurality of network facilities. The Examiner therefore relies on RAWSON et al. to teach a plurality of interface identifiers (Fig. 1, refs. 130-A, 130-B) that correspond to the plurality of network facilities (Fig. 1, refs. 160-A, 160B). However, refs. 130-A and 130-B are DSLAMS, or DSL modems, located within a central office in the telecommunication network 170, and Refs. 160-A and 160-B are "remote targets," which are remote systems accessed by the users (refs. 110-A to 110-E) over the telecommunication network 170. *See* col. 6, lines 19-22. The specification provides exemplary remote targets: remote target 160-A is a company being accessed by employees 110-A, 110-B and 110-E, and remote target 160-B is an

internet service provider being accessed by users 110-C and 110-D. *See* col. 7, lines 4-8.

The DSLAMs and remote targets of RAWSON et al. clearly do not teach or suggest the interface identifiers corresponding to network facilities of claim 18. First, the interfaces being identified according to claim 18 correspond to each of the network elements, and are invoked by a provisioning server "*for communicating with the previously assigned facilities needed to implement the service order.*" *See* Specification, para. [0061]. In contrast, the DSLAMs 130-A and 130-B, at best, can only interface between the users 110-A to 110-E and the telecommunication network 170, not between the a provisioning server (not shown in RAWSON et al.) and the remote targets 160-A and 160-B. Also, the interfaces do not enable communication with the network facilities (i.e. remote targets 160-A and 160-B) to implement a DSL service order, they simply enable a network connection for use by the users 110-A to 110-E. Furthermore, the remote targets 160-A and 160-B are located outside the telecommunication network 170 (*see, e.g.,* Fig. 1; col. 6, lines 58-60 ("Remote target 160-A is *connected* to the telecommunications network 170 by line 176-A ...."), and therefore are not network facilities, as recited in claim 18.

Accordingly, at least for each and all of the numerous reasons set forth above, Appellants submit that the rejection of the invention recited in claim 18 should be reversed.

(3) Claims 2-7, 19 and 22-23

Appellants additionally submit that claims 2-7, 19 and 22-23 are allowable, at least for the reason that these claims depend from claims 1 and 18, respectively, and because these claims recite additional features that further define the present invention and which are not taught or made obvious by the references upon which the Examiner has relied. For example, Appellants submit that claims 6, 7 and 23 are separately patentable over the

combination of SUNDARESAN et al. in view of RAWSON et al., which fails to disclose or render obvious, in the claimed combination, *inter alia*,

(i) providing a profile identification that corresponds to parameters that define the DSL service (claim 6); and

(ii) displaying an error message at a graphical user interface and correcting erroneous data through input from the graphical user interface (claims 7 and 23).

Claim 6

For example, claim 6 recites a profile identification that corresponds to parameters that define the DSL service. The profile being identified for provisioning purposes may include information such as discrete multi-tone (DMT) parameters, e.g., data rates, noise levels and power characteristics, provided by a CLEC 106, to streamline provisioning of a service order. *See* Specification, paras. [0038], [0041]. In comparison, Fig. 9 and col. 15, lines 55-65, of SUNDARESAN et al., relied upon by the Examiner, merely teach entering data specific to a user, such as user location, as opposed to referencing an identifiable profile.

Claims 7 and 23

SUNDARESAN et al. likewise do not teach or suggest displaying an error message at a graphical user interface (GUI) connected to the server, or correcting erroneous data through input from the GUI. The portions of SUNDARESAN et al. relied upon by the Examiner (i.e., Figs. 15 and 16; col. 23, lines 1-9; col. 23, line 26 – col. 24, line 55) merely disclose identifying an appropriate central office to associate with a particular user location, and the possibility of errors caused by relyng on the user's phone number to make such a determination. There is no disclosure or suggestion of displaying an error message on a

GUI (e.g., the Display Unit 570), or receiving input via the GUI in response to the erroneous data.

Accordingly, for all the above reasons, Appellants submit that the rejection of claims 1-7, 18-19 and 22-23 under 35 U.S.C. § 103(a) is inappropriate and unsupported by the combination of SUNDARESAN et al. in view of RAWSON et al. Therefore, Appellants respectfully request that the decision of the Examiner to reject claims 1-7, 18-19 and 22-23 under 35 U.S.C. § 103(a) be reversed, and that the application be returned to the Examiner for withdrawal of the rejection and an early allowance of claims 1-7, 18-19 and 22-23 on appeal.

(B) Claims 8-17, 20-21 and 24-38 are not obvious over SUNDARESAN et al. in view of RAWSON et al. further in view of BYERS, and the decision to reject Claims 8-17, 20-21 and 24-38 under 35 U.S.C. 103(a) should be reversed.

In the Official Action of July 20, 2004, the Examiner rejected claims 8-17, 20-21 and 24-38 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,463,079 to SUNDARESAN et al. in view of U.S. Patent No. 6,028,867 RAWSON et al. further in view of U.S. Patent No. 5,926,472 to BYERS. Appellants respectfully submit that the rejection of each of claims 8-17, 20-21 and 24-38 is improper and should be reversed. In this regard, Appellants hereinbelow address the rejection of the independent claims under 35 U.S.C. § 103(a) as unpatentable over SUNDARESAN et al. in view of RAWSON et al. further in view of BYERS in the numerical order of the claims.

The References Relied Upon by the Examiner Are Non-Analogous

The references relied upon by the Examiner are non-analogous. Two criteria have evolved for determining whether prior art is analogous: (i) whether the art is from the same field of endeavor, regardless of the problem addressed, and (ii) when a reference is not within the field of endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979).

Generally speaking, the present invention is related to efficiently provisioning service orders for high bandwidth connections. More specifically, the present invention relates to a method for provisioning a DSL service for a subscriber in a telecommunications network; a system for provisioning a DSL service in a telecommunications network and a computer readable medium for storing a computer program that provisions a DSL service in a telecommunications network.

The RAWSON et al. patent is related to providing high speed remote access connections to subscribers for communications across a telecommunications network. The routing/network connection disclosure of RAWSON et al. is not from the same field of endeavor as the presently claimed invention. RAWSON et al. relate to establishing connections across a telecommunications network to enable communications (*i.e.*, routing calls from a subscriber terminal), not provisioning service orders (*e.g.*, initially setting up a DSL service for a subscriber). This reference does not involve configuring the facilities needed to provide the desired service, or changes to the desired service, to the subscriber.

It assumes that the desired service has already been established, and is now routing calls and making connections through the network using that service.

Moreover, the applied reference is not pertinent to the problem with which the inventors are involved. The inventors solved the problem of not being able to efficiently provision DSL service orders in the many various types and associated protocols of network facilities that must be configured in order to implement the service orders. The different facilities would have to be separately configured. In contrast, RAWSON et al., which is directed to solving the problem of connecting a user to different destinations across the network, does not even address network configuration problems.

Also, the BYERS patent is related to an outside distribution plant of a telecommunications network to provide combined narrowband and broadband signals. The BYERS patent only deals with the functionality of an outside distribution plant of a telecommunications network, consisting of optical links connecting switching systems of the network to remote terminals, such as digital loop carriers, to enable combined narrowband and broadband network connections. The problem addressed by BYERS is providing flexibility to prevent outside distribution plant resources from being over- or under-allocated.

There Is No Motivation to Combine SUNDARESAN et al. with RAWSON et al.

Even if the references were considered analogous (which they are not), there is no suggestion, motivation, incentive or reason to combine them in the manner proposed by the Examiner. "[T]he record must provide a teaching, suggestion, or reason to substitute computer-controlled valves for the system of hoses in the prior art. The absence of such a suggestion to combine is dispositive in an obviousness determination." *SmithKline*

Diagnostics, Inc. v. Helena Lab. Corp., 859 F.2d 878, 886-87, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988).

According to the Examiner, one having ordinary skill in the art would have been motivated to modify SUNDARESAN et al. by RAWSON et al. to gain "high speed access to any location connected to a central office in a cost effective manner," citing col. 4, lines 37-39 of RAWSON et al. for support. The exact passage in RAWSON et al. is from the summary of the invention and reads, "The present invention enables high speed remote access to be provided to any location connected to a central office in a cost effective manner." This passage is simply a statement that the entirety of the invention of RAWSON et al. may enable high speed remote access in a cost effective manner; it is not remotely a teaching, motivation or suggestion that the limited teachings that the Examiner has extracted from RAWSON et al. would provide high speed remote access when applied in a totally different system, whether that claimed by the appellant or that disclosed by SUNDARESAN et al. There is simply nothing in this broad language of RAWSON et al. that would have motivated the sort of modification of SUNDARESAN et al. necessary to yield the appellant's claimed invention.

The SUNDARESAN et al. and RAWSON et al. references address completely different aspects of broadband telecommunications services: SUNDARESAN et al. address establishing services, e.g., by pre-qualifying service requests and reserving resources, while RAWSON et al. address establishing connections across a network pursuant to an already established service, and connecting to different types of destination end systems or "remote targets." In RAWSON et al., it is clear that the services that enable the users (110) to make connections across the telecommunications network (170) have already been set up, or

configured. The data being sent across the network therefore is not provisioning data used to establish the service, but is the data the users (110) wish to convey to the remote targets (160) (*e.g.*, a company 160-A or an internet service provider 160-B). Accordingly, there is no motivation in SUNDARESAN et al. to incorporate the interface of RAWSON et al., which connects the telecommunications network and the remote target to communication pursuant to a previously provisioned service, into a broadband service provisioning system.

The Combination of SUNDARESAN et al. in view of RAWSON et al. further in view of BYERS Does Not Teach or Suggest All of the Limitations of the Rejected claims

(1) Claim 8

Similar to the above-noted features recited in claim 1, claim 8 recites determining an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities, and configuring each facility to implement the service order based on instructions communicated from a common server to each of the plurality of facilities using the corresponding interface. Appellants respectfully submit that the above-noted features of claim 8 are not disclosed or suggested by the combination of SUNDARESAN et al. and RAWSON et al., at least for same reasons as noted above with respect to the allowability of claim 1.

Appellants additionally assert that SUNDARESAN et al. do not disclose or suggest converting a service order into provisionable steps. The portions of SUNDARESAN et al. relied upon by the Examiner (i.e., col. 16, lines 27-67; col. 18, lines 1-24) merely disclose prequalifying a service order. For example, the OSS 190 makes a preliminary determination of the availability of the service requested for the user location, and determining whether the

requested services can be provided. *See, e.g.,* col. 16, lines 50-53; col. 18, lines 1-5. In contrast, the provisionable steps as recited in claim 8 include converting the serviced order itself into provisionable steps, which are then implemented in the assigned facilities needed to provision the DSL service. *See, e.g.,* Specification, para. [0056].

The Examiner only relied on BYERS to teach an optical concentrator device connetable to a remote terminal, which the Examiner admitted was not taught by any combination of SUNDARESAN et al. and RAWSON et al. Therefore, BYERS does not overcome the deficiencies of SUNDARESAN et al. and RAWSON et al.

Accordingly, at least for each and all of the reasons set forth above, as well as the reasons set forth with respect to claim 1 herein, Appellants submit that the rejection of the invention recited in claim 8 should be reversed.

(2) Claim 24

Claim 24 is a system claim, and recites similar features recited in claim 18, noted above. Claim 24 recites a system database (e.g., Fig. 1, System Database 130) that stores the service order and a plurality of interfaces corresponding to the plurality of network facilities (e.g., RT 102, RT Controller 110, OCD 104, EMS 116). Claim 24 further recites a server (e.g., Provisioning Server/Interface 128) that determines facilities from among the plurality of network facilities needed to implement the service order, and that directs configuration of the provisioning facilities using the corresponding interfaces from the system database, enabling communication with the provisioning facilities, to implement the DSL service based on the service order. In addition, claim 24 recites a service order entry system (*e.g.,* Service Order Placement System 112) that receives the service order, and a facility inventory systems that stores facility information regarding each of the plurality of

network facilities (*e.g.*, Facility Inventory System 114).

Appellants respectfully submit that the above-noted features of claim 24 are not disclosed or suggested by the combination of SUNDARESAN et al., RAWSON et al., and BYERS at least for reasons similar to the above-noted reasons for the allowability of claim 18. More particularly with respect to claim 24, the Examiner concedes that SUNDARESAN et al. do not disclose a plurality of interfaces corresponding to the plurality of network facilities. The Examiner therefore relied on RAWSON et al. to teach a plurality of interfaces (Fig. 1, refs. 130-A, 130-B) that correspond to the plurality of network facilities (Fig. 1, refs. 160-A, 160B). However, refs. 130-A and 130-B are DSLAMS, or DSL modems, located within a central office in the telecommunication network 170, and Refs. 160-A and 160-B are "remote targets," which are remote systems accessed by the users (refs. 110-A to 110-E) over the telecommunication network 170. *See* col. 6, lines 19-22. The specification provides exemplary remote targets: remote target 160-A is a company being accessed by employees 110-A, 110-B and 110-E, and remote target 160-B is an internet service provider being accessed by users 110-C and 110-D. *See* col. 7, lines 4-8.

The DSLAMs and remote targets of RAWSON et al. clearly do not teach or suggest the interfaces corresponding to network facilities of claim 18. First, the interfaces being identified according to claim 18 correspond to each of the network elements, and are invoked by a provisioning server "*for communicating with the previously assigned facilities needed to implement the service order.*" *See* Specification, para. [0061]. In contrast, the DSLAMs 130-A and 130-B, at best, can only interface between the users 110-A to 110-E and the telecommunication network 170, not between a provisioning server (not shown in RAWSON et al.) and the remote targets 160-A and 160-B. Also, the interfaces do not

enable communication with the network facilities (i.e., remote targets 160-A and 160-B) to implement a DSL service order, they simply enable a network connection for use by the users 110-A to 110-E. Furthermore, the remote targets 160-A and 160-B are located outside the telecommunication network 170 (*see, e.g.,* Fig. 1; col. 6, lines 58-60 ("Remote target 160-A is *connected* to the telecommunications network 170 by line 176-A ...."), and therefore are not network facilities, as recited in claim 24.

Furthermore, SUNDARESAN et al. do not teach or suggest a facility inventory system. The Examiner asserted that the claimed facility inventory system is taught by the server system 1030 of Fig. 10, which stores facility information including a type, a location and an availability of each of the plurality of network facilities. However, the server system 1030 of SUNDARESAN et al. stores information relating to the DSL subscriber (*e.g.,* the user location, the desire services and the date from which the services are desired), *not information relating to the facilities needed to implement the services. See, e.g.,* col. 18, lines 1-12. In fact, SUNDARESAN et al. disclose that the server system 1030 may not even be needed to implement order entry under certain circumstances, in which user information is obtained through alternative means. *See* col. 18, lines 45-53. Therefore, the server system 1030 clearly does not teach the facility inventory system with which the server of claim 24 communicates to determine the provisioning facilities from the plurality of network facilities needed to implement the DSL service based on the service order.

As in regard to claim 8 above, the Examiner only relied on BYERS to teach an optical concentrator device connetable to a remote terminal, which the Examiner admitted was not taught by any combination of SUNDARESAN et al. and RAWSON et al. Therefore, BYERS does not overcome the deficiencies of SUNDARESAN et al. and RAWSON et al. with

respect to claim 24.

Accordingly, at least for each and all of the numerous reasons set forth above, Appellants submit that the rejection of the invention recited in claim 24 should be reversed.

(3) Claim 31

Claim 31 is directed to a computer readable medium for storing a computer program, executed by a provisioning server, that includes code segments for executing steps substantially similar to the method of claim 1. For example, claim 31 recites a determining source code segment that determines an interface corresponding to each of the plurality of facilities, each interface converting the service order data into a protocol corresponding to an assigned facility, and configuring source code segment that configures each facility to implement the service order using the corresponding interface. Appellants respectfully submit that the above-noted features of claim 31 are not disclosed or suggested by the combination of SUNDARESAN et al. and RAWSON et al., at least for same reasons as noted above with respect to the allowability of claim 1.

The Examiner only relied on BYERS to teach an optical concentrator device connectable to a remote terminal, which the Examiner admitted was not taught by any combination of SUNDARESAN et al. and RAWSON et al. Therefore, BYERS does not overcome the deficiencies of SUNDARESAN et al. and RAWSON et al. with respect to claim 31.

Accordingly, at least for each and all of the numerous reasons set forth above, Appellants submit that the rejection of the invention recited in claim 31 should be reversed.

(4) Claim 38

Claim 38 is directed to a computer readable medium for storing a computer program that includes code segments for executing steps substantially similar to the method of claim 8. For example, claim 38 recites an interface determining source code segment that determines an interface corresponding to each of the plurality of facilities, each interface enabling communications with the corresponding one of the plurality of facilities, and a configuring source code segment that configures each facility to implement the service order based on instructions from a server using the corresponding interface. Claim 38 further recites a converting source code segment that converts the service order into provisionable steps. Appellants respectfully submit that the above-noted features of claim 31 are not disclosed or suggested by the combination of SUNDARESAN et al. RAWSON et al., at least for same reasons as noted above with respect to the allowability of claim 8.

As in regard to claim 8 above, the Examiner only relied on BYERS to teach an optical concentrator device connectable to a remote terminal, which the Examiner admitted was not taught by any combination of SUNDARESAN et al. and RAWSON et al. Therefore, BYERS does not overcome the deficiencies of SUNDARESAN et al. and RAWSON et al. with respect to claim 38.

Accordingly, at least for each and all of the numerous reasons set forth above, Appellants submit that the rejection of the invention recited in claim 38 should be reversed.

(5) Claims 9-17, 20-21, 24-30 and 32-37

Appellants additionally submit that claims 9-17, 20-21, 25-30 and 32-37 are allowable, at least for the reason that these claims depend from claims 8, 18, 24 and 31, respectively, and because these claims recite additional features that further define the

present invention and which are not taught or made obvious by the references upon which the Examiner has relied. For example, Appellants submit that claims 9, 11, 17, 26, 30, 36 and 37 are separately patentable over the combination of SUNDARESAN et al. in view of RAWSON et al., in further view of BYERS which fails to disclose or render obvious, in the claimed combination, *inter alia*,

(i) providing a profile identification that corresponds to parameters that define the DSL service (claim 17, 30, 36);

(ii) displaying an error message at a graphical user interface and correcting erroneous data through input from the graphical user interface (claim 11, 26, 37); and

(iii) formatting data from the service order into a common internal format prior to converting the service order into provisional steps (claim 9).

Claims 17, 30 and 36

For example, claims 17, 30 and 36 recite a profile identification that corresponds to parameters that define the DSL service. The profile being identified for provisioning purposes may include information such as discrete multi-tone (DMT) parameters, *e.g.*, data rates, noise levels and power characteristics, provided by a CLEC 106, to streamline provisioning of a service order. *See* Specification, paras. [0038], [0041]. In comparison, Fig. 9 and col. 15, lines 55-65 of SUNDARESAN et al., relied upon by the Examiner, merely teach entering data specific to a user, such as user location, as opposed to referencing an identifiable profile. Similarly, col. 19, lines 14-51, and col. 20, lines 26-35, relied upon by the examiner with respect to claim 30, merely teach entering data specific to a user, as well as pre-qualifying service orders based, for example, on user location.

Claims 11, 26, 37

SUNDARESAN et al. likewise do not teach or suggest displaying errors or erroneous data at a GUI, or correcting errors through input from the GUI. The portion of SUNDARESAN et al. relied upon by the Examiner (i.e., Figs. 15 and 16; col. 23, lines 1-9; col. 23, line 26 – col. 24, line 55) merely disclose identifying an appropriate central office to associate with a particular user location, and the possibility of errors caused by relying on the user's phone number to make such a determination. There is no disclosure or suggestion of displaying an error message on a GUI, or receiving input via the GUI in response to the erroneous data.

Claim 9

Claim 9 recites formatting data from the service order into a common internal format prior to converting the service order into provisionable steps. Commonly formatted data enables, for example, a single function to perform the service order data conversion, thus simplifying internal processing logic. *See, e.g.,* Specification, para. [0045]. The portion of SUNDARESAN et al. relied upon by the Examiner (*i.e.,* col. 18, lines 49-53) do not teach or suggest formatting the data of a received service order into a common format. In fact, the cited portion of SUNDAREASAN et al. discusses actually creating the service order using forms on a locally provided client system 1060, not processing (*i.e.,* reformatting) data received in a previously created and submitted service order.

Accordingly, for all the above reasons, Appellants submit that the rejection of claims 8-17, 20-21 and 24-38 under 35 U.S.C. § 103(a) is inappropriate and unsupported by the combination of SUNDARESAN et al. in view of RAWSON et al. further in view of BYERS. Therefore, Appellants respectfully request that the decision of the Examiner to reject claims

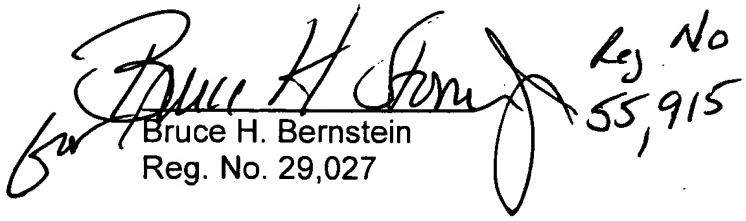
8-17, 20-21 and 24-38 under 35 U.S.C. § 103(a) be reversed, and that the application be returned to the Examiner for withdrawal of the rejection and an early allowance of claims 8-17, 20-21 and 24-38 on appeal.

(8) CONCLUSION

Appellants respectfully submit that each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. 101, 35 U.S.C. 102, 35 U.S.C. 103 and 35 U.S.C. 112, first and second paragraphs, and that the present application and each pending claim are allowable over the prior art of record.

Should there be any questions, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
T. Klos, et al.



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CLAIMS APPENDIX

1. A method for provisioning a digital subscriber line (DSL) service for a subscriber in a telecommunications network, the method comprising:

receiving a service order at a provisioning server, the service order requesting implementation of the DSL service and comprising provisioning data;

assigning a plurality of facilities to implement the service order based on the provisioning data, the plurality of facilities comprising at least a remote terminal connectable to a terminal of the DSL subscriber;

determining an interface corresponding to each of the plurality of assigned facilities, each interface converting at least a portion of the provisioning data into a specific protocol corresponding to the assigned facility; and

configuring each of the plurality of facilities, using the corresponding interface, to implement the service order based on the provisioning data.

2. The method for provisioning a DSL service according to claim 1, further comprising:

determining at least one path interconnecting the plurality of facilities and a subscriber port of the remote terminal, the subscriber port being configured to connect with the DSL subscriber terminal.

3. The method for provisioning a DSL service according to claim 2, further comprising:

determining and implementing a cross-connection in at least one of the plurality of facilities to enable the at least one path interconnecting the plurality of facilities and the subscriber port.

4. The method for provisioning a DSL service according to claim 3, further comprising:

storing configuration data in a system database, the configuration data comprising data identifying the plurality of facilities assigned to implement the service order, the at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal, and the cross-connection in the at least one of the plurality of facilities.

5. The method for provisioning a DSL service according to claim 1, wherein the provisioning data is derived based on the provisioning data indication in the service order.

6. The method for provisioning a DSL service according to claim 1, wherein the service order indicates the provisioning data by at least one of providing the provisioning data and providing a profile identification that corresponds to parameters that define the DSL service.

7. The method for provisioning a DSL service according to claim 1, further comprising:

determining whether the service order comprises erroneous data; and

when the service order is determined to comprise erroneous data, displaying at a graphical user interface an error message, which identifies the erroneous data, and receiving input from the graphical user interface to correct the erroneous data.

8. A method for provisioning a digital subscriber line (DSL) service in a telecommunications network for a subscriber, the method comprising:

receiving a service order at a common server, requesting set up of the DSL service;

converting the service order into provisionable steps;

determining facility assignment data related to each of a plurality of facilities needed

to implement the provisionable steps, the facility assignment data comprising identification of at least a remote terminal and a subscriber port, connectable to a terminal of the DSL subscriber, and an optical concentrator device connectable to the remote terminal;

determining an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities; and

configuring each of the plurality of facilities to implement the service order based on instructions communicated from the common server to each of the plurality of facilities using the corresponding interface.

9. The method for provisioning a DSL service according to claim 8, further comprising:

formatting data from the service order into a common internal format prior to converting the service order into provisional steps.

10. The method for provisioning a DSL service according to claim 8, further comprising:

validating an intent of the service order with respect to a state of a port of the remote terminal associated with the DSL subscriber and provisioning the service order in the remote terminal upon successful validation.

11. The method for provisioning a DSL service according to claim 8, further comprising:

identifying errors related to at least one of the service order and the provisioning of the DSL service; and

displaying information regarding the errors at a graphical user interface, the graphical user interface being configured to enable a user to analyze and respond to the errors.

12. The method for provisioning a DSL service according to claim 8, the configuring each of the plurality of facilities to implement the service order comprising one of building, deleting or changing at least one virtual path over an optical fiber connection between the remote terminal and the optical concentrator device.

13. The method for provisioning a DSL service according to claim 12, the building of at least one virtual path over an optical fiber connection between the remote terminal and the optical concentrator device comprising:

providing a network-side port at the remote terminal configured to connect with the subscriber port;

communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to support the virtual path to the network-side port of the remote terminal.

14. The method for provisioning a DSL service according to claim 12, the deleting of at least one virtual path over an optical fiber connection between the remote terminal and the optical concentrator device comprising:

disconnecting a network-side port at the remote terminal from the subscriber port;

communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to delete support of the virtual path to the network-side port of the remote terminal.

15. The method for provisioning a DSL service according to claim 8, the configuring each of the plurality of facilities to implement the service order comprising one of building,

deleting or changing at least one cross-connection in at least one of the plurality of facilities.

16. The method for provisioning a DSL service according to claim 8, further comprising:

enqueuing the provisionable steps after determining the facility assignment data related to each of a the plurality of facilities needed to implement the provisionable steps; and

sequentially dequeuing the provisionable steps for implementation on a scheduled provisioning date, prior to determining the interface for each of the plurality of facilities.

17. The method for provisioning a DSL service according to claim 8, further comprising:

receiving service profile data related to at least one service from a service provider, the service profile data comprising at least one parameter related to the service order;

storing the service profile data in a system database; and

configuring each of the plurality of facilities to implement the service order additionally based on the service profile data.

18. A system for provisioning a digital subscriber line (DSL) service in a telecommunications network, the system comprising:

a server that receives a service order for implementing the DSL service;

a plurality of network facilities connectable to the server; and

a system database that stores the service order and a plurality of interface identifiers for interfaces corresponding to the plurality of network facilities;

wherein the server assigns provisioning facilities from among the plurality of network facilities needed to implement the service order, the provisioning facilities comprising at

least one remote terminal, connectable to a terminal of a subscriber of the DSL service; and

wherein the server directs configuration of each of the provisioning facilities, using at least one of the interface identifiers retrieved from the system database corresponding to each of the provisioning facilities, enabling communication with the provisioning facilities, to implement the DSL service based on the service order.

19. The system for provisioning a DSL service according to claim 18, the remote terminal comprising a subscriber port, the subscriber port being configured to connect with a DSL subscriber terminal, wherein the server enables at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal.

20. The system for provisioning a DSL service according to claim 19, wherein the at least one of the remote terminal and the optical concentrator device determine and implement a cross-connection to enable the at least one path interconnecting the plurality of facilities and the subscriber port.

21. The system for provisioning a DSL service according to claim 20, the system database comprising configuration data that identifies the plurality of facilities assigned to implement the service order, the at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal, and the cross-connection in the at least one of the plurality of facilities.

22. The system for provisioning a DSL service according to claim 18, further comprising:

a graphical user interface connected to the server and configured to interface with the server, the system database and at least one of the plurality of network elements.

23. The system for provisioning a DSL service according to claim 22, wherein, when

the service order comprises erroneous data, the graphical user interface displays an error message, which identifies the erroneous data, and receives input from an operator in response to the erroneous data.

24. A system for provisioning a digital subscriber line (DSL) service in a telecommunications network, the system comprising:

a service order entry system that receives a service order for the DSL service from a DSL service provider;

a server that receives the service order from the service order entry system;

a plurality of network facilities connectable to the server and a terminal of a subscriber of the DSL service;

a facility inventory system connected to the server that stores facility information regarding each of the plurality of network facilities, the facility information comprising a type, a location and an availability of each of the plurality of network facilities; and

a system database connected to the server that stores data relating to the service order and a plurality of interfaces corresponding to the plurality of network facilities, the plurality of interfaces enabling communication with the plurality of network facilities;

wherein the server communicates with the facility inventory system to determine provisioning facilities from among the plurality of network facilities needed to implement the DSL service based on the service order, the provisioning facilities comprising at least one remote terminal having a subscriber port and at least one optical concentrator device, the remote terminal being connectable to the optical concentrator device via an optical fiber line; and

wherein the server directs configuration of each of the provisioning facilities using a

corresponding one of the plurality of interfaces retrieved from the system database to implement the DSL service.

25. The system for provisioning a DSL service according to claim 24, further comprising:

a graphical user interface connectable to the server that enables interaction by a network operator with at least one of the server, the plurality of network facilities and the system database.

26. The system for provisioning a DSL service according to claim 25, wherein the server identifies errors related to at least one of the service order and the provisioning of the DSL service; and

wherein information regarding the errors is displayed at the graphical user interface and error responses are sent from the graphical user interface to the server.

27. The system for provisioning a DSL service according to claim 24, wherein the configuration of each of the provisioning facilities, using a corresponding one of the plurality of interfaces retrieved from the system database to implement the service order, comprises one of building, deleting or changing at least one virtual path over the optical fiber connection between the remote terminal and the optical concentrator device.

28. The system for provisioning a DSL service according to claim 27, wherein the building of at least one virtual path over the optical fiber connection between the remote terminal and the optical concentrator device comprises:

providing a network-side port at the remote terminal configured to connect with the subscriber port;

communicating to the optical concentrator device the identity of the network-side

port; and

configuring the optical concentrator device to support the virtual path to the network-side port of the remote terminal.

29. The system for provisioning a DSL service according to claim 27, wherein the deleting of at least one virtual path over the optical fiber connection between the remote terminal and the optical concentrator device comprises:

disconnecting a network-side port at the remote terminal from the subscriber port;

communicating to the optical concentrator device the identity of the network-side port; and

configuring the optical concentrator device to delete support of the virtual path to the network-side port of the remote terminal.

30. The system for provisioning a DSL service according to claim 24, further comprising an interface configured to connect a graphical user interface of the DSL service provider with the server;

wherein the system database stores service profile data related to at least one service of the DSL service provider, the service profile data comprising at least one parameter related to the service order; and

wherein provisioning facilities are configured to implement the service order additionally based on the service profile data.

31. A computer readable medium for storing a computer program executed by a provisioning server that provisions a digital subscriber line (DSL) service in a telecommunications network, the computer readable medium comprising:

a receiving source code segment that receives a service order requesting

implementation of the DSL service;

an assigning source code segment that assigns a plurality of facilities needed to implement the service order based on provisioning data indicated by the service order, the plurality of facilities comprising at least a remote terminal connectable to a terminal of a DSL subscriber and an optical concentrator device connectable to the remote terminal;

a determining source code segment that determines an interface corresponding to each of the plurality of facilities, each interface converting the service order data into a specific protocol corresponding to the assigned facility; and

a configuring source code segment that configures each of the plurality of facilities, using the corresponding interface, to implement the DSL service based on the service order.

32. The computer readable medium for storing the computer program according to claim 31 further comprising:

a path determining source code segment that determines at least one path interconnecting the plurality of facilities and a subscriber port of the remote terminal, the subscriber port being configured to connect with the DSL subscriber terminal.

33. The computer readable medium for storing the computer program according to claim 32 further comprising:

a cross-connection determining source code segment that determines and implements a cross-connection in at least one of the plurality of facilities to enable the at least one path interconnecting the plurality of facilities and the subscriber port.

34. The computer readable medium for storing the computer program according to claim 33 further comprising:

a memory source code segment that stores configuration data in a system database, the configuration data comprising data identifying the plurality of facilities assigned to implement the service order, the at least one path interconnecting the plurality of facilities and the subscriber port of the remote terminal, and the cross-connection in the at least one of the plurality of facilities.

35. The computer readable medium for storing the computer program according to claim 31 wherein the provisioning data is derived based on the provisioning data indication in the service order.

36. The computer readable medium for storing the computer program according to claim 31 wherein the service order indicates the provisioning data by at least one of providing the provisioning data and providing a profile identification that corresponds to parameters that define the DSL service.

37. The computer readable medium for storing the computer program according to claim 31 further comprising:

an error detection source code segment that determines whether the service order comprises erroneous data and, when the service order is determined to comprise erroneous data, initiates display at a graphical user interface of an error message, which identifies the erroneous data, and receives input from the graphical user interface to correct the erroneous data.

38. A computer readable medium for storing a computer program that provisions a digital subscriber line (DSL) service in a telecommunications network, the computer readable medium comprising:

a receiving source code segment that receives a service order at a common server

via a service order entry system, the service order requesting that the DSL service be set up for a DSL subscriber;

a converting source code segment that converts the service order into provisionable steps;

a facility assignment source code segment that determines facility assignment data related to each of a plurality of facilities needed to implement the provisionable steps, the facility assignment data comprising identification of at least a remote terminal and a subscriber port, connectable to a terminal of the DSL subscriber, and an optical concentrator device connectable to the remote terminal;

an interface determining source code segment that determines an interface for each of the plurality of facilities, each interface enabling communication with the corresponding one of the plurality of facilities; and

a configuring source code segment that configures each of the plurality of facilities to implement the service order based on instructions communicated from the common server to each of the plurality of facilities using the corresponding interface.